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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,854	07/31/2001	Fan-Nan Lin		4996

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EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,854

Applicant(s)

LIN, FAN-NAN

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 and 21-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17 and 21-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 31 is indefinite because the expression "said nonmetallic chlorine-containing compound" lacks proper antecedent basis in claim 23. There is no prior mention that the compound is nonmetallic.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by UK Patent Application GB 2047732A to Lewis.

The Lewis reference discloses a process for reforming a gasoline boiling range hydrocarbon that would necessarily contain paraffins and/or naphthenes and that comprises the reactivation of an oxidatively regenerated platinum and iridium reforming catalyst. The reference

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discloses that reforming processes typically utilize multiple reactor units. The reactivation comprises contacting the oxidatively regenerated catalyst with a gas stream that comprises hydrogen for reducing the metal components of the catalyst and chlorine compounds to maintain the chlorine content of the catalyst in the range of 0.6 to 2 weight percent. See page 1, lines 5-42; page 2, lines 5-51; and the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 21 and 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent Application GB 2047732A to Lewis in view of Condrasky et al. (US 3,625,860).

The Lewis reference discloses a process for reforming a gasoline boiling range hydrocarbon that would necessarily contain paraffins and/or naphthenes and that comprises the reactivation of an oxidatively regenerated platinum and iridium reforming catalyst. The reference

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discloses that reforming processes typically utilize multiple reactor units. The reactivation comprises contacting the oxidatively regenerated catalyst at temperatures ranging from 600° to 1100°F with a gas stream that comprises hydrogen for reducing the metal components of the catalyst and chlorine compounds to maintain the chlorine content of the catalyst in the range of 0.6 to 2 weight percent. Chlorine compounds are those that can decompose at treatment conditions. See page 1, lines 5-42; page 2, lines 5-51; and the claims.

The Lewis reference does not disclose the chlorine compounds of claims 21 and 31, does not disclose the pressure of the reactivation treatment, and does not disclose the claimed steps for oxidatively regenerating the catalyst as in claims 23-31.

The Condrasky reference discloses a process for reactivating a reforming catalyst that comprises oxidative regeneration of the catalyst. The regeneration steps include purging the reaction zone with an inert gas, burning the carbon deposits on the catalyst at temperatures up to 900°F, treating the catalyst in the presence of an oxygen-containing gas (at least 5 volume percent oxygen) at temperatures ranging from 800° to 1150°F, and then purging and cooling the catalyst to a temperature below 700°F. One example indicates that the burning continued for 20 hours. The catalyst is then subjected to a reducing and chlorination treatment. The chlorine compound used can be an organic compound such as propylene dichloride that decomposes at treatment conditions. See column 1, lines 42-65; column 2, line 44 through column 3, line 50; and column 5, line 41 through column 6, line 11.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lewis by utilizing the regeneration steps of

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Condrasky because such steps result in a regenerated catalyst that can then be reactivated through reduction and halogenation steps.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lewis by utilizing the chlorine compounds and similar compounds as suggested by Condrasky because such compounds are shown to effectively chlorinate reforming compounds.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Lewis by utilizing the claimed treatment pressures because reduction pressures are not critical and one would use any pressure that provides the desired result of a reactivated catalyst.

Claims 22 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent Application GB 2047732A to Lewis in view of Condrasky et al. (US 3,625,860) as applied to claims 21 and 31 above, and further in view of Boyle (US 4,872,970).

The previously discussed references do not disclose the use of perchloroethylene as the chlorine-containing compound.

The Boyle reference discloses that chlorine compounds such as perchloroethylene can be used to chlorinate reforming catalysts. See column 3, lines 34-57.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the previously discussed reference by using perchloroethylene as the chlorinating compound as suggested by Boyle because the use of this compound effectively increases the chlorine content of a reforming catalyst.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 17 and 21-32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17 and 21-32 of copending Application No. 09/919253. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to a reforming process in which the catalyst is activated by simultaneously contacting the catalyst with hydrogen and a chlorine compound. The claims in 09/919253 do not include the chlorine percent of the treated catalyst. However, it would have been obvious to one having ordinary skill in the art to modify the claims of 09/919253 to include the specific amount of chlorine because one would add only that amount of chlorine that provides an effective reforming catalyst.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 17 and 21-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,410,472.

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Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

The claims in the patent are drawn to the activation of a reforming catalyst. The patented claims include the oxidative regeneration and simultaneous contacting of the catalyst with hydrogen and a chlorine compound.

The claims are not drawn to reforming. However, it would have been obvious to modify the claims to include a reforming step because reforming catalysts are used in such reforming processes.

Claims 17 and 21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,291,381. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

The claims in the patent are drawn to the activation of a reforming catalyst. The patented claims include the simultaneous contacting of the catalyst with hydrogen and a chlorine compound.

The patented claims are not drawn to reforming. However, it would have been obvious to modify the patented claims to include a reforming step because reforming catalysts are used in such reforming processes.

Claims 17 and 21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 6,593,264. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

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The claims in the patent are drawn to a reforming process that includes the activation of the reforming catalyst. The patented claims include the simultaneous contacting of the catalyst with hydrogen and a chlorine compound. The patented claims include additional steps. However, the claims of the present application do not exclude additional steps. Additionally, the patented claims do not include the limitation that the process utilizes multiple reaction zones. However, it would have been obvious to one having ordinary skill in the art to include multiple reaction zones in the patented claims because the use of such is conventional in reforming processes.

Conclusion

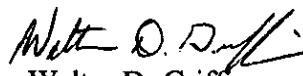
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not relied upon discloses catalyst regeneration and reactivation steps.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
May 28, 2004